REMARKS

Claims 1-22 are all the claims pending in the application. Claims 17-22 are newly added claims. Applicant thanks the Examiner for acknowledging the claim for foreign priority under 35 U.S.C. § 119 and Applicants asks that the Examiner acknowledge the drawings.

I. Claim Rejections - 35 USC § 112

The Examiner rejected claim 3 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which is regarded as the invention.

The Examiner is concerned with the following limitation of claim 3 "ejecting the one incident light beam so that an optical axis of the ejected light beams is parallel to an optical axis of the light beam..."

Applicant herein amends claim 3 for clarification purposes to recite that the "optical axis of the ejected light beam is parallel to the incident light beam." Applicant respectfully requests the Examiner to withdraw this rejection of claim 3.

II. *Claim Rejections - 35 USC § 102*

The Examiner rejected claims 1-8 and 11-13 under 35 U.S.C. 102(b) as being allegedly anticipated by Ichiro (JP 2000-284206).

Claims 1 and 11, which similarly include:

> a refracting member which has a unit surface shape for **dividing one light beam into two light beams** by ejecting the one incident light beam toward different positions,
>
> wherein **the array refracting element is configured to arrange the two refracting members in pair units in an array shape in a direction orthogonal to a light beam dividing direction,**

are not taught by Miyagawa '206.

The Examiner noted that "the prism 64 having a pair of exit surfaces 66a and 66b slanted in the auxiliary scanning direction" (Office Action, page 3). The Examiner appears to acknowledge that element 64 in Miyagawa '206 fails to teach an "array refracting element is configured to arrange the two refracting members in pair units in an array shape in a direction orthogonal to a light beam dividing direction." Accordingly, the Examiner cites the multiple exposure head embodiment of Fig. 15 to teach pair units of refracting members.

Even assuming, *arguendo*, that the different embodiments in Miyagawa '206 may be combined, claims 1 and 11 describe two distinct characteristics, including 1) splitting of an incident beam in two paths and 2) members arranged in unit pairs in a direction orthogonal to a light dividing direction. To the extent that Fig. 13 of Miyagawa '206 shows split beams L1 and L2 from beam L, the direction of the split is direction Y. Significantly, the orientation of the faces 66a and 66b are also arranged in direction Y. Therefore, it is clear that the single prism of Miyagawa '206 does not meet the dual requirements 1) and 2) identified above. Moreover, even taking the side-by-side multiple arrangement of heads 84a-84g, there may, *arguendo*, be an array in a direction orthogonal to a dividing direction; however, the side-by-side units relate to different incident beams, and therefore would not meet the first requirement for splitting of the incident beam of claims 1 and 11.

Applicant respectfully requests the Examiner to withdraw this rejection of independent claims 1 and 11, and their respective dependent claims 2-8, 12, and 13.

The Examiner rejected claims 9-10 under 35 U.S.C. 102(b) as allegedly being anticipated by Nishi et al. (U.S. 5,815,249).

Independent claim 9 includes:

> a diffracting member, having a unit surface shape for dividing one incident light beam into two light beams,
>
> wherein **the array refracting members are arranged in a pair unit in an array shape in a direction orthogonal to a light beam dividing direction.**

Similar to Miyagawa '206, Nishi fails to teach that "array refracting members are arranged in a direction orthogonal to a light beam dividing direction" which divides the incident beam.

Fig. 2 of Nishi shows the optically transparent substrate 6 with projections Ga and recesses Gb arranged in the X direction (from top to bottom of substrate 6). Likewise, Fig. 2 shows the light beam [IL(+1), IL(0), IL(-1)] dividing direction in the same X direction. Thus, projections Ga and recesses Gb of Nishi are not "arranged in a direction orthogonal" to the light beam dividing direction but are arranged in a parallel direction.

Further, the Examiner noted "Nishi et al. discloses an array diffracting element comprising an optically transparent [thus refractive] substrate (6) with diffraction grating G formed on the exit surface of the substrate 6 with projection Ga and recesses Gb such that the incident light beam IL1 is divided ... the array diffracting element having exit surface shape formed with projection Ga and recesses Gb to form pair units arranged in a [horizontal] direction

orthogonal to the light beam dividing [vertical] direction as shown in Fig. 2 (col. 9, lines 4-38)." (Office Action, pages 6-7).

Regarding the Examiner stating that Ga and Gb are pair units in a horizontal direction and the light beam is divided in a vertical direction, Fig. 3A of Nishi shows that the respective projections and recesses Ga and Gb extend from left to right in the horizontal direction across the face of substrate 6. Now, assuming that Ga and Gb are a pair unit as indicated by the Examiner, then each pair unit would include the projection Ga and the recess Gb below. Thus Fig. 3A shows that each pair unit Ga and Gb is arranged from top to bottom, in the vertical direction, corresponding to the X direction in Fig. 2. Fig. 2 is a side view (col. 1, lines 1-2) and Fig. 3A is a front view as seen from the fly-eye lens 7 side (col. 1, lines 9-10). Figs. 2 and 3A both show that Nishi does not teach "array refracting members arranged in a pair unit ... in a direction orthogonal to a light beam dividing direction." Instead, Figs. 2 and 3A in Nishi teach the contrary--that the projections and recesses are arranged from top to bottom in the X direction, which is parallel to the light beam dividing direction. Therefore, Nishi does not anticipate independent claim 9 nor its dependent claim 10.

Applicant respectfully requests the Examiner to withdraw this rejection of claim 9 and its dependent claim 10.

III. *Claim Rejections - 35 USC § 103*

The Examiner rejected claims 14-16 under 35 U.S.C. 103(a) as being allegedly unpatentable over Miyagawa in view of Nishi et al.

Independent claim 14 includes, *inter alia*:

> two refracting members are arranged in a pair unit in an array shape in a direction orthogonal to a light beam dividing direction.

As discussed above, Miyagawa '206 is deficient in that it does not teach or suggest "a pair unit in an array shape in a direction orthogonal to a light beam dividing direction," that splits the incident beam. Nishi does not compensate for this deficiency. The combined teachings of Miyagawa '206 and Nishi would not have rendered obvious claims 14-16.

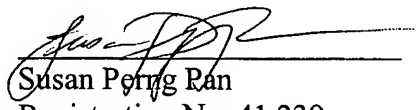
Applicant therefore respectfully requests the Examiner to withdraw this rejection of independent claim 14 and its dependent claims 15 and 16.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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